

## Clinical Section

### \*The Anti-Tuberculosis Campaign and its Relationship to the General Profession

By

E. L. Ross, M.D. (Man.)

*Medical Superintendent*

*Sanatorium Board of Manitoba*

When the campaign against tuberculosis began in Manitoba 30 years ago the two great efforts were the establishment of the Sanatorium and the education of the public regarding better standards of living to increase resistance against disease. Tuberculosis was found associated with poverty, over-crowding and poor ventilation, and improvement of living conditions did provide a measure of protection. The basis of Sanatorium treatment was, and still is the application of rest and the provision of a high standard of living. Thousands of people with tuberculosis have been returned to a healthy and useful life by these measures alone. What was good for the individual then must be good for the community if applied on a wider scale. So the clearing of slums, improved sanitation and the application of all general public health measures have done a great deal to decrease tuberculosis. However, this improvement of living conditions had its limitations, the great deficiency being that it did not prevent infection. It did not prevent the implantation of the tubercle bacillus in the healthy body.

The next step in the campaign to eliminate tuberculosis has been a more direct one and is dependent on the all important fact that it is an infectious disease. The disease often reaches an advanced stage before manifesting itself to the extent that the patient makes the decision to see a doctor. It is usually a chronic disease, usually develops gradually and insidiously and often is in an infectious stage for some time before being discovered. Tuberculosis, however, may be acute and have a sudden onset. This brings us to another step in the campaign—the finding of cases, especially the finding of early cases. The earlier the discovery the more amenable to treatment and the less the spread of infection.

How then can tuberculosis be discovered early? By education of the public, making them tuberculosis conscious; teaching them about the prevention and early symptoms, because, after all, they have to make the first decision about consulting the doctor. The weakness of this is that tuberculosis in its real early stage does not cause illness so it must be searched for. The doctor must go to the patient with facilities and knowledge to find early disease. The whole population cannot be examined so these searching efforts are con-

finer to fields where the disease is most likely to be found—first among family contacts who have a ten times greater chance of developing tuberculosis than the general population. The most susceptible age group is between the ages of 15 and 45, so a considerable portion of searching energy should be expended among this group. Hundreds of nurses are examined and x-rayed throughout the province each year; there are high school surveys, other schools and homes are examined, and each year the Normal School students in the province are addressed and examined. An interesting feature of last year's work was the sending out to all schools in the province—over 2,200—a lesson on tuberculosis to be taught by the teacher to the children. Prizes were offered for the best essay. This was thought to be one way of establishing a consciousness of tuberculosis among the young people and at this period of life it is most opportune since the incidence of the disease rises after leaving school and after that reaches a maximum within a period of ten years.

The Travelling Tuberculosis Clinic, which was begun in 1926 and supported entirely by the sale of Christmas seals, is one of the greatest educational, diagnostic and preventive agencies at work in the province today. Besides monthly clinics at Brandon, Dauphin and Portage la Prairie, the Travelling Clinic cover the province each year, in 1938 making 7,741 examinations at 79 clinics held at 51 centres. A fourth of those examined are children and half of the total were contacts. 724 known tuberculous patients were reviewed and about 10 per cent. of these found to have re-activated disease. There were 158 new discoveries of tuberculosis and it is of interest that only 16 per cent. had reached a far advanced stage. These clinics, as I said, are not only of value in the following of trails of infection, in the finding of tuberculosis and the reviewing of known cases, but of educational value to the public and medical profession. At these clinics we act as consultants, those we examine are the doctors' patients not ours, they are referred by him and reports are sent to the doctor and not to the patient. There is a constant effort to keep the patient and his doctor together.

As the years have gone by people in general, both individually and collectively, have become much better informed about tuberculosis. With this better understanding the disease is no longer considered as a dreaded stigma nor a blight on the family tree. With thousands of people the Sanatoriums have returned to a life of happiness and usefulness scattered throughout the province the attitude toward Sanatorium treatment has also changed. There is a much more hopeful and optimistic outlook for cure, and people are more anxious to avail themselves of diagnostic facilities which are more ample and more efficient. The

\* Address read before the Winnipeg Medical Society, February, 1939.

infectious nature of the disease is more clearly realized and public opinion is more insistent on isolation of the spreader of infection. Prevention and treatment of tuberculosis are closely related and any anti-tuberculosis programme that neglects one or the other is inadequate.

The Sanatorium is the foundation and backbone of the whole anti-tuberculosis programme. It serves a two-fold function, that of prevention as it effects the family and the community, and that of cure, which is naturally the chief concern of the person with tuberculosis. Although the Sanatorium has been an invaluable blessing to the individual and the community by restoring tuberculous sick to health, yet the isolation and segregation which has been more or less incidental has no doubt been a most important factor in bringing about the much lower infection rate that prevails among the present generation. Although rest and conditions to improve resistance to tuberculosis are still the basis of Sanatorium treatment, much more active measures are now adopted in a surgical or semi-surgical way. Over 75% of patients on Sanatorium treatment have the lung collapsed by one way or another. The outlook for one with tuberculosis need not be one of despair and hopelessness. Sixty per cent. of those discharged from sanatoria are well on the way to recovery and for most ultimate re-establishment. Treatment of tuberculosis in Manitoba is of as high a standard as anywhere. The people in general are more anxious to avail themselves of treatment so in this respect the relationship of the general practitioner to the patient and family is a much easier one. The Sanatorium has developed into an active up-to-date hospital, a place of interest, a place of teaching with benefits in the campaign against tuberculosis extending far beyond its walls.

The very nature of tuberculosis is such that it cannot be conquered in one generation, but if the same progress continues in the future it will ultimately be reduced to a minor place as a cause of death, with a corresponding alleviation of the economic and domestic distress that follows in its wake. Tuberculosis is one infectious disease that can be cured and eradicated by early treatment and segregation. During 1938 in Manitoba there were 362 deaths caused by tuberculosis — 238 among white people and 124 among Indians. This is a decrease of 71, or 16 per cent., of deaths as compared to 1937, and the most striking drop in the tuberculosis death rate for a number of years. The white deaths have been decreasing but Indian deaths kept the total up and it is gratifying to note the decrease in deaths in this past year among Indians. In 1929 the death rate from tuberculosis among white people was 48 per 100,000, and this past year it is 32, a decrease of 33 per cent. The death rate among Indians is 25 times as great as among the white people, and this two per cent. of the population in Manitoba accounts for one-third of the total tuberculosis deaths. Still more striking and encouraging is the reduction in the number

who have been infected. Twenty-five years ago infection was considered to be almost universal and nearly everybody by the time they had reached adult life reacted to tuberculin. Now tuberculin surveys indicate that about ten per cent. of school children and not more than 20 to 25 per cent. of young adults have acquired infection. This should present a much more hopeful future for the rising generation as far as tuberculosis is concerned.

The anti-tuberculosis organization in Manitoba consists of the Sanatorium Board which has direct control of the Manitoba Sanatorium with its 285 beds and an out-patient department where a thousand a year are examined. It controls the Central Tuberculosis Clinic in Winnipeg, which is a clearing house and observation centre with 45 beds. But the greatest function of the Central Clinic is diagnostic. The Board also manages the Travelling Tuberculosis Clinics. Treatment facilities were greatly increased when the Sisters of Charity opened in 1931 St. Boniface Sanatorium in St. Vital with 250 beds. An Out-Patient Chest clinic is conducted at St. Boniface Hospital. The King Edward Hospital with from 100 to 125 beds treats tuberculous cases from the City of Winnipeg and also has an Out-Patient Department. The Provincial Department of Health is indispensable, the services of special value being through the Central Tuberculosis Registry and the Nursing Service. The Registry has a record of every tuberculous person in the province whether in or out of Sanatorium. It has records of their families and contacts. It correlates the findings of all Sanatoria and clinics and through information from it the field work is to a great extent determined. The Department of Health is carrying for medical and nursing supervision 3,604 families outside of Winnipeg. The number of families receiving allowances from the Child Welfare Division because of the death of the father from tuberculosis is 91 and 40 additional families are carried because of tuberculosis.

Since the beginning of organized tuberculosis work in Manitoba there has been a realization of the necessity of and a continual effort to promote the co-operation, the interest, confidence and good will of the profession as a whole. The very foundation of successful anti-tuberculosis work is the general medical profession, and without them the whole programme will fail, no matter how elaborate educational, preventive, diagnostic and treatment facilities are developed. The general practitioner's part in the campaign is more than a relationship. They are partners. Of all the links in the chain of prevention and curative tuberculosis measures, theirs, the first link, is the most important. The general practitioner has the opportunity to make the earliest diagnosis. The possibility of tuberculosis needs always to be kept in mind. Remember not to depend on the stethoscope to make an early diagnosis. Certainly not depend on it to rule out tuberculosis. The x-ray is indispensable and the most important

means of diagnosis. If there is any doubt whatever have a chest film. Remember sputum examination is a very useful and readily available test. Carry specimen containers in your bag. Remember that old people may have tuberculosis and that Grandpa and Grandma who have coughed for years may be spreading tubercle bacilli.

In conclusion—Tuberculosis can be prevented; Tuberculosis can be cured; Tuberculosis can be eradicated—by the co-ordination and co-operation of the efforts of governments, social agencies, educational institutions and the medical profession.

### OBITUARY

#### HERBERT PETER HOWELL GALLOWAY

Herbert Peter Howell Galloway, leading orthopaedic surgeon, died in Winnipeg General Hospital on July 13th, aged 73. He was born in Hawkesville, Ontario, and received the degree of M.D., C.M. from Victoria University in 1887. He engaged in general practice in Toronto for nine years, after which he was associated with the late Dr. B. D. McKenzie in the Toronto Orthopaedic Hospital. In 1905 he came to Winnipeg and established a clinic at 661 Broadway, where he continued to practice until his death. He was Associate Professor of Surgery (Orthopaedics) in the Manitoba Medical College and Faculty of Medicine, University of Manitoba, from 1906 to 1931, and for a similar period was Orthopaedic Surgeon at Winnipeg General Hospital.

In 1912 Dr. Galloway went to England to work with Sir Robert Jones who was Surgeon General R.A.M.C. during the Great War. During the war Dr. Galloway was in charge of all Orthopaedic cases in Medical District No. 10, from 1915 to 1919 with the rank of Lieutenant-Colonel.

He served as President of the American Orthopaedic Association, the Manitoba Medical Association, and the Winnipeg Medical Society. He was the original orthopaedic surgeon at the Children's Hospital, Winnipeg. He was a member of the Canadian Medical Association, Manitoba Medical Association, American Academy of Orthopaedic Surgeons, and Fellow of the American College of Surgeons. He contributed numerous articles on Surgery to medical journals throughout Canada and the United States.

It is not too much to say that Dr. Galloway established modern orthopaedic methods in Western Canada and that he stimulated research along many lines. In closing a Lister Day oration he spoke of that great surgeon as having "clean hands and a pure heart." With justice this might also be said of Dr. Galloway.

#### DR. OLAFUR STEPHENSEN

Dr. Olaphur Stephensen, 74, first Icelandic physician in Canada, died at Winnipeg on July 17th. He was born in Iceland and took some medical studies in the University of Reykjavik, Iceland, and in the University of Copenhagen. He came to Canada in 1893; attended the Manitoba Medical College for a year, and graduated in 1895. During the war he served with the C.A.M.C. from 1916 to 1918. Following the war he returned to Winnipeg and practiced until his retirement in 1929.

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## Special Articles and Association Notes

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### Minutes of Executive Meeting

Minutes of a meeting of the Executive Committee of the Manitoba Medical Association held in the Medical Arts Club on Monday, June 12th, 1939, at 6.30 p.m.

#### Present.

Officers and members of Executive Committee:

Dr. W. S. Peters, Chairman, Dr. W. W. Musgrove, Dr. W. G. Campbell, Dr. O. J. Day, Dr. C. B. Stewart, Dr. E. W. Stewart, Dr. W. F. O'Neill, Dr. E. L. Ross, Dr. Geo. Brock, Dr. W. E. Campbell, Dr. S. G. Herbert, Dr. O. C. Trainor, Dr. C. W. MacCharles.

Representatives on Council of Canadian Medical Association:

Dr. T. E. Holland, Dr. J. D. Adamson, Dr. Ross Mitchell.

Chairman of Committee on Constitution and By-Laws:

Dr. F. D. McKenty.

Chairman of Committee on Sociology:

Dr. E. S. Moorhead.

#### Reading of Minutes of Executive Meeting, May 23rd, 1939.

Copies of a summary of the minutes had been printed and were given to the members of the Executive present.

It was moved by Dr. C. B. Stewart, seconded by Dr. E. W. Stewart: THAT the minutes of the Executive meeting of May 23rd be taken as read. —Carried.

#### Instructions to Delegates to Canadian Medical Association Council.

1. Report of Committee on Constitution and By-Laws: Dr. McKenty, Chairman of the Committee on Constitution and By-Laws of the Manitoba Medical Association, reported that his committee had held two meetings during the past winter, and he had been in communication with Dr. Harris, Chairman of the Committee on Constitution and By-Laws of the Canadian Medical Association.

Dr. McKenty read this letter, which contained a resolution, which had been adopted by the Committee on Federation, which reads:

"The committee recommends that the Manitoba Medical Association should change its status to that of a Division of the Canadian Medical Association, provided that (1) the Manitoba Medical Association shall retain such features of its constitution as it considers important, and, (2) that the Manitoba Medical Association may revert to the status of a branch if it so wishes after one year's notice of such intention."

It was moved by Dr. F. D. McKenty, seconded by Dr. O. C. Trainor: THAT the report of the committee be accepted. —Carried.

Dr. McKenty stated that he might be asked to discuss the report at the meeting of council, and he asked for instructions.

He then re-read the first paragraph in the letter with regard to the definition of the functions of the Canadian Medical Association and the Manitoba Medical Association, and asked if he could be instructed to make a statement to council along these lines.

The committee agreed.

2. Report of Committee on Sociology re. Health Insurance: Dr. Moorhead read the minutes of the meeting of the Committee on Sociology held on June 8th with the following motion:

"That the committee recommend that the Executive Committee instruct the delegates to council to support the recommendations of the Committee on Economics of the Canadian Medical Association, but should recommend that the Canadian Medical Association should formulate the general principles required in a medical service for the nation on the lines of the proposals of the British Medical Association, stating that the amount of service required, its cost, and the cost and method of administration will require a detailed fact finding investigation, and that the Canadian Medical Association should at once set up the machinery to secure the necessary information, and that the proposals of the Canadian Medical Association be made available to the governments and the public by the publishing of a pamphlet or otherwise."

It was moved by Dr. E. S. Moorhead, seconded by Dr. C. B. Stewart: THAT the report of the Committee on Sociology be adopted. —Carried.

#### Letter from Dr. Hamlin.

Dr. Moorhead read a letter received from the secretary of the Portage la Prairie Medical Society.

Dr. Trainor pointed out that the resolution passed at the meeting of the Sociology Committee on May 17th with regard to sending an officer out to help the local practitioners negotiate with the council, was too restricted.

After prolonged discussion, it was moved by Dr. O. C. Trainor, seconded by Dr. Geo. Brock: THAT the resolution be amended by the addition of "or from the organized medical society." —Carried.

#### Dr. Strong's Letter re. Workmen's Compensation Board.

The secretary stated that he had written to Dr. Strong on three occasions and asked him to comment on the report of the Special Committee appointed to deal with the matter. The secretary then read the report of this committee.

It was moved by Dr. W. W. Musgrove, seconded by Dr. W. E. Campbell: THAT in view of Dr. Strong not replying to three letters asking him to comment on the report that the report be filed on the assumption that Dr. Strong is satisfied. —Carried.

# Annual Meeting

## Provisional Programme

### MONDAY, SEPTEMBER 11th

#### Morning

##### Royal Alexandra Hotel

9.00 Registration.

#### Scientific Meeting.

Chairman, W. E. CAMPBELL, M.D. (Man.).

9.30 Observations on the Higher Voltage X-Ray Therapy in Malignancy.

B. R. MOONEY, M.D. (Wes.).

9.50 Cervical Stenosis.

D. S. MacKAY, F.R.C.O.G.

10.10 Intermission.

10.20 Caecostomy, a Simple and Safe Measure in Diseases of the Colon.

ROSCOE R. GRAHAM, F.R.C.S. (C.).

11.05 Intermission.

11.15 The Principles of Artificial Feeding of Infants.

H. B. CUSHING, M.D. (McG.).

#### Afternoon

##### Royal Alexandra Hotel

12.30 Luncheon.

##### Lower Fort Garry

3.00 Garden Party.

#### Evening

##### Royal Alexandra Hotel

#### Meeting: Medical Economics.

Chairman, S. W. PETERS, M.D. (Man.).

8.00 The Development of Health Insurance Throughout the World and its Bearing on Medical Economics in Canada.

HUGH H. WOLFENDEN, Esq., F.I.A., F.A.S., F.S.S.

9.00 The Relief Medical Service in Ontario.

T. C. ROUTLEY, F.R.C.P. (C.).

9.15 The Relief Medical Service in Winnipeg.

E. S. MOORHEAD, F.R.C.P. (C.).

9.30 Morbidity Survey in Manitoba.

F. W. JACKSON, D.P.H. (Tor.).

### TUESDAY, SEPTEMBER 12th

#### Morning

##### Medical College.

#### Clinical Meeting.

Chairman, J. D. ADAMSON, M.R.C.P. (Edin.).

9.30 Clinical Demonstrations.

Clinical Cases will be described by members of the staffs of local hospitals and discussed by the visiting clinicians. Medical, Surgical, Gynaecological, Paediatric, Urological cases of interest to the general practitioner will be presented and discussed.

#### Afternoon

##### Royal Alexandra Hotel

1.00 Luncheon.

Presidential Address.

2.00 Annual General Meeting.

#### Evening

##### Royal Alexandra Hotel

7.15 Annual Dinner and Dance.

### GUEST SPEAKERS

Frank S. Patch, B.A., M.D., C.M., F.R.C.S. (C.), Professor of Surgery, McGill University, Montreal, and President-Elect of the Canadian Medical Association.

H. B. Cushing, B.A., M.D., C.M., Emeritus Professor of Paediatrics, McGill University, Montreal.

Roscoe R. Graham, M.B., F.R.C.S. (C.), Assistant Professor of Surgery, University of Toronto.

W. G. Cosbie, M.D., M.B., F.R.C.S. (C.), F.R.C.O.G., Senior Demonstrator in Obstetrics and Gynaecology, University of Toronto.

C. H. Vrooman, M.D., C.M. (Man.), F.R.C.P. (C.), Vancouver.

Hugh H. Wolfenden, F.I.A., F.A.S., F.S.S., Toronto, the Consulting Actuary and Statistician.

T. C. Routley, M.D., LL.D., F.R.C.P. (C.), General Secretary, Canadian Medical Association.

Registration at the Royal Alexandra Hotel, Monday, September 11th, at 9 a.m.

The scientific meetings will be at the Royal Alexandra Hotel.

The clinical sessions will be held at the Medical College. There will be presentation of cases with discussion by the visiting clinicians.

# Winnipeg, September 11-12-13

## Royal Alexandra Hotel

### WEDNESDAY, SEPTEMBER 13th

#### Morning

Royal Alexandra Hotel

#### Scientific Meeting.

Chairman, C. B. STEWART, F.R.C.S. (Edin.).

#### 9.30 The Results in Treatment of Fractures of the Femur in Children.

A. P. MacKINNON, F.R.C.S. (C.).

#### 9.50 The Importance of Early Diagnosis in Urinary Tract Tumours.

FRANK S. PATCH, F.R.C.S. (C.).

10.30 Intermission.

#### 10.40 Pleuritis.

C. H. VROOMAN, F.R.C.P. (C.).

11.20 Intermission.

#### 11.30 Maternal Mortality.

W. G. COSBIE, F.R.C.O.G.

#### Afternoon

Golf Club

2.00 Annual Golf Tournament.

## LADIES' PROGRAMME

### MONDAY, SEPTEMBER 11th

#### Afternoon

Lower Fort Garry

3.00 Garden Party.

#### Evening

Residence of Dr. S. G. Herbert

8.00 Bridge — for wives of visiting doctors.

### WEDNESDAY, SEPTEMBER 13th

#### Morning

Golf Club

9.00 Golf.

### TUESDAY, SEPTEMBER 12th

#### Afternoon

Manitoba Club

#### 1.00 Luncheon.

Wives of the members of the retiring executive will be guests of Mrs. S. W. Peters at the Manitoba Club.

#### Evening

Royal Alexandra Hotel

7.15 Annual Dinner and Dance.

## PUBLIC MEETING

### MONDAY, SEPTEMBER 11th

#### Evening

Winnipeg Auditorium

#### 8.30 Public Lecture.

ROSCOE R. GRAHAM, M.B., F.R.C.S. (C.), will deliver a popular lecture on Cancer. In addition,

another visiting physician will discuss a subject of special interest to the laity. Wives of the members of the Association and their friends are urged to attend this meeting.

An interesting and instructive group of scientific exhibits are being arranged.

Several pharmaceutical and instrument manufacturers will have booths among the commercial exhibits.

Luncheons, golf, afternoon tea and other functions are being arranged for the ladies.

All golfers are invited to enter the annual golf tournament.

There will be a special session on medical economics at which Mr. Hugh H. Wolfenden, F.I.A., F.A.S., F.S.S., the Consulting Actuary, will deliver

an address and there will be discussion of current problems of medical economics.

The Annual General Meeting will review the work of the association.

The Annual Dinner and Dance will be held in the Crystal Ballroom of the Royal Alexandra Hotel.

The subjects to be discussed at the scientific session and clinical meetings will be of importance to the practicing doctor.

Plan now to attend the Annual Meeting of the Manitoba Medical Association, and make your reservations early.



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## Department of Health and Public Welfare

### NEWS ITEMS

#### FOOD AND FOOD POISONING

The following article, by Dr. Samuel Frant, Epidemiologist and Director, Bureau of Preventable Diseases, New York City Department of Health, was recently published in the publication "Preventive Medicine" and we are quoting it herewith trusting our readers will find it as interesting as we have:

"One of the outstanding accomplishments of the twentieth century is the sound knowledge of the ways along which pestilence travels, and how epidemic disease can be prevented. Unfortunately much of this knowledge is still not adequately utilized. How well it can be taken advantage of has been shown in the recent report<sup>1</sup> of Castellani, Surgeon-in-Chief of the Italian Army in Africa. By insisting upon surprisingly simple and well-known preventive measures, he was able to keep the morbidity rate of the Ethiopian army, fighting under the most primitive of conditions in a climate and land rife with disease, lower even than that of the soldiers at home. This is all the more remarkable when we consider that most tacticians felt that this campaign would fail more because of the enormous incidence of tropical disease in the unacclimated Italian soldier, than because of any other single factor.

"Civil life offers no less remarkable instances of the triumphs of modern sanitation. For example, in New York City no disease has been traced to the public water supply since 1907. No outbreak of milk-borne disease since 1912. Much of the credit for this, it is true, belongs to the sanitary engineer. His province is peculiarly the environment of man as he lives together with other men, and pure water, safe milk, adequate disposal of sewage, and the host of other sanitary measures so effectively employed, are his responsibility and his achievement.

"It may be of interest to review briefly these modern sanitary procedures usually arrived at in every civilized community, these safeguards which are part of our modern heritage.

#### HOW A MODERN CITY IS PROTECTED

**"Water:** First, of course, is a safe public water supply, from an unpolluted source, guarded against contamination throughout its entire course, filtered or otherwise treated, chlorinated for safety, and continually checked for adequate residual chlorine content. There must never be a chance of pollution, never the possibility of failure, no matter what extra demands are put upon it, and never the danger of mixture with any less protected water supply.

**"Sewage:** Next comes proper sewage disposal, adequate and effective, with no cross connections to the water or food of the community. It must be rendered completely harmless before final disposal far from the source of the public water supply.

**"Milk:** The third modern factor in the prevention of communicable disease is safe milk, of necessity from cows free from communicable disease, maintained under ideal conditions. Above all, this means milk from cows free from tuberculosis. As is well known, by no means every herd of cows is so happily situated. In fact, it is only since last year that New York State has become an accredited tuberculosis-free area, containing less than 1/2 per cent. of tuberculin-positive cows. As knowledge grows of other diseases of cattle, veterinarians are endeavoring to eliminate herds in which either contagious abortion (Bang's disease) or infec-

tious mastitis are present. These projects are even more ambitious than the eradication of bovine tuberculosis, but there is every indication that in the near future they may be realized. How extensive this problem of safeguarding milk in large communities is, may be better understood when it is realized that over 3 million quarts of milk are consumed daily in New York City, this milk coming from a radius of over 300 miles.

**"Other Foods:** Of next importance in this survey are food and food products, especially meat, poultry and fish. Almost 2 billion pounds of these foodstuffs come into New York City each year, and are either consumed or handled in the metropolitan area. Ninety-nine per cent. of these meats is inspected by veterinarians of the United States Department of Agriculture, thus insuring freedom from disease and wholesomeness for human consumption. Under the Meat Inspection Act of 1906, these inspections include ante and post-mortem examinations, and investigations to see that the animals are slaughtered, handled and stored under proper sanitary conditions. Pork requires special attention. As is well known, at least 2 per cent. of the hogs of the country are infested with trichinae, the cycle of the parasite being kept alive by trichinous rats eaten by hogs and by the feeding of pork scraps containing trichinae to other hogs. Pork and pork products customarily eaten raw are required to be so refrigerated or treated as to contain no live trichinae. Warnings to cook fresh pork adequately are continually being broadcast: — thorough cooking will kill all trichinae and make pork safe to eat.

"In the case of eggs, protection of wholesomeness is assured by national and state laws regulating the grading for size, quality and freshness. Vegetables and fruits are now grown and transported under the best of conditions, with no danger of contamination with night soil. The market for these foodstuffs has increased enormously with the growth of better transportation facilities and refrigeration. Cereals, breadstuffs and other staples of food made under good sanitary conditions, are kept protected from rodents and insects and adequately wrapped for transfer from maker to consumer. Supervision of fish is the rule, with adequate refrigeration before sale. Shellfish must be grown in approved waters and kept free from contamination by sewage while stored. Mushrooms, too, are carefully grown, by expert mycologists.

**"Beverages:** In the case of beverages, the public, by continued inspection and laboratory tests, is protected from those artificial colors and flavors which may possibly be injurious. Careful inspections are made at various manufacturing plants to see that all equipment is properly cleansed and that manufacture occurs under proper sanitary conditions. Installation of sterilizers is required to insure adequate cleanliness of all bottles and equipment. Alcoholic beverages also come within the province of modern health protection; for example, in the laws to prevent the use of wood alcohol as an adulterant.

"In this entire field of protection of food, however, eternal vigilance is necessary, as is shown by the fact that 3 1/4 million pounds of unwholesome foods and milk were condemned in this city alone in 1937.

"In the modern community proper storage and refrigeration of foods is of outstanding importance. Just as the automobile in most cities has solved the problem of transmission of disease by the fly by banishing the horse and stable, so mechanical refrigeration has greatly diminished the problem of spoilage, and has given the city dweller a means of keeping fresh for daily use his small supply of food.

## HOW MAY DISEASE BE SPREAD?

"All these multiple safeguards have to a large extent reduced enormously major outbreaks of disease in large communities. Unfortunately, however, there still remain many morbid conditions which may be traced to food or drink. A brief resume of these as seen by the modern public health officer, will aid in clarifying the entire question for the general practitioner, and enable him to determine his proper course of action in individual instances.

**"Direct Transmission:** First, food and drink may transmit disease merely as vehicles. This pathway is well-known in typhoid fever, cholera and dysentery epidemics, in milk transmission of tuberculosis, scarlet fever, septic sore throat and undulant fever, and in tenia and trichinosis infestations. This method of spread is fairly well controlled by adequate supervision of the slaughter of cattle, by supervising cases and carriers of disease, and professional foodhandler contacts. For example, in every case of communicable disease, other members of the family doing foodhandling are excluded. Every case of typhoid fever, paratyphoid fever, bacillary and amebic dysentery is followed up, and professional foodhandler contacts excluded from work until found free from the organisms of these diseases. Carriers are closely supervised and forbidden any occupation which involves handling of food for others. Strict watch on this group prevents much of the spread of these conditions.

**"Contamination:** Next, food and water may cause disease because of adulteration or admixture with deleterious or poisonous substances. Outstanding examples of these are the lead poisonings described in the literature, and endemic dental fluorosis found in regions with an excess fluorin in the water supply. Here, also, may be classed the poisonings due to the use in industry or agriculture of harmful substances. For example, poisonous chemicals are ingredients of fruit sprays. Some of this poison may dry and remain on the fruit. To prevent these from causing poisoning, standards for residual maxima are set up and careful check made of any sources of excess in spray residuals.

**"Metabolic Products:** Another group of disease-producing foods includes those which sometimes evolve toxic substances in the metabolism of the growing plant or vegetable; for example, poisoning from oxalic acid in rhubarb leaves, and potato poisoning due to the formation of solanin in potatoes at certain times of the year. Danger from non-edible mushrooms, and poisonings due to toxins in mussels may also be mentioned. Still another group of disorders traced to food are those due to allergic manifestations in susceptible individuals. These, of course, are well-known to all practitioners, and are illustrated by urticaria and allied skin conditions, or asthma, and the like.

**"True Food Poisonings:** Last remain the true food poisonings, manifested mainly by gastroenteric symptoms. These were formerly classed as 'ptomaine poisonings,' because of their supposed causal relationship to protein decomposition, but are now known to be due to the growth of bacteria or to their performed toxins. There are two main groups of food poisoning: food infections and food intoxications, corresponding to these two ways in which bacteria may cause disease.

## WHAT IS FOOD POISONING?

**"The Two Types:** The food infections have an incubation period of from six hours to three days. Their main symptoms are nausea, vomiting, diarrhea, pain in the abdomen, fever and marked exhaustion. Post-mortem examinations usually reveal fatty degeneration of the liver. The food intoxications on the other hand have a much shorter incubation period (sometimes only a few hours) and because of the toxin already present, the symptoms are much more severe.

**"Incidence:** The incidence of the true food poisonings is uncertain, because of the great number of cases

ordinarily not reported. Food poisoning often occurs in small groups of two or three persons, and there are probably many isolated manifestations of the syndrome, not diagnosed as such because only one person is known to be affected, and is considered suffering from some other condition. It is estimated that there are at least 15,000 to 20,000 cases a year in the United States, occurring most often in the summer. In New York City several hundred outbreaks involving over 1,000 persons are reported yearly. Of individuals partaking of a contaminated or infected food, from 75 to 100 per cent. become ill; the mortality, however, except in botulism is usually less than one per cent. There is no obvious sex or age distribution, except that the very young and the very old are more frequently and more severely attacked.

**"The Food Infections:** In the food infections, the bacteriological findings are of great interest. For many years it was considered that these disturbances were due to decomposition products formed from the foods themselves; now it is well established that the majority are due to organisms of the *Salmonella* group (formerly known as paratyphoid B). In this group, there are three main classes, *S. enteritidis*, *S. suipetifer* and *S. aertrycke*. These food infections due to *Salmonella* are to be sharply differentiated, of course, from true paratyphoid fever which develops like true typhoid fever, and is a more or less long drawn out illness with fever, enlarged spleen, rose spots and a continued rise in the blood of agglutinins against the invading organism. Contrasted with this, the *Salmonella* food poisonings are of sharp onset and of short duration, with only a few days' rise of temperature and little or no agglutination reaction in the blood. There may be of course intermediate types. Seventy-five per cent. of all food poisoning cases are considered by some authorities as due to these three groups of *Salmonella*. For the most part the food which causes these outbreaks is of protein nature, often meat made up into prepared patties, or chopped and allowed to stand overnight improperly refrigerated. The organisms of the *Salmonella* group can very frequently be recovered from such leftover products. Normal intestinal bacteria and other mildly pathogenic organisms have also been shown in a few instances to cause outbreaks of this type. For example, *B. Proteus*, atypical *B. coli*, *B. dysenteriae*, and the milk streptococci, to mention only a few, have been isolated from food or from the stools of patients in some food poisoning outbreaks.

"How do these organisms get into food? First, as a primary infection of the animal and of the meat used for human consumption. This was formerly often the case in Germany, where animals with symptoms of disease were permitted to be slaughtered for immediate use as food, the so-called emergency slaughter, or 'Notschlacht.' Next by contamination of wholesome meat by growth of organisms introduced by a human case or carrier; or from an outside source, such as excreta of mice or rats in places where food is prepared. Human carriers of *Salmonella* are known to exist but are uncommon. Mice and rats carry organisms of this group, either as natural hosts or as carriers of the so-called 'viruses' formerly often employed to exterminate them by causing outbreaks among them of mouse typhoid.

**"The Food Intoxications—Botulism:** The food intoxications consist of two main groups, those due to the toxins of the bacillus of botulism and those due to the toxins of the staphylococcus. Botulism was first described in Germany in 1820 as occurring after eating sausage; the organism itself was not isolated until 1896. In this food intoxication the incubation period usually is under 24 hours, varying at times, however, up to three days. Vomiting and constipation occur early, and cranial nerve paralyzes soon follow. Coma, subnormal temperature and death supervene in over 50 per cent. of the cases. The pathology of the disease includes



thrombosis of the larger blood vessels and changes in the cells of the cerebral cortex. The organism is anaerobic, forming a very potent toxin, the fatal dose of which may be as low as 1/100 of a milligram. On ingestion the toxin passes through the gastro-intestinal tract unharmed and is absorbed quickly into the system. From 1900 to 1925 there were reported in the United States 146 outbreaks of botulism with 504 persons affected. Over this period the mortality was 67 per cent. The disease was formerly more frequent in the winter, because it is mainly spread by home canned foods eaten at this time of the year. Directly opposed to what is true of the food infections, where the food is ordinarily indistinguishable from wholesome food, the appearance of improperly canned food infected by the bacillus botulinus is often characteristic; there is frequently definite indication of spoilage. The last reported outbreak of botulism in New York City in 1920, was found to be due to olives. A fatal case was reported this year in the Bronx from home canned stringbeans, raised by the patient in her garden. Antitoxins for botulism are available, and if given very early, are of value. Since the early reports of botulism from commercially canned foods, the canners have greatly improved their sterilizing and canning processes; this has largely eliminated botulism resulting from commercially prepared products. The danger in home canning still exists, as the organism is ubiquitous; and only careful attention to all details of sterilization will prevent outbreaks from this source.

**"Staphylococcic Food Poisoning:** The other group of food intoxications is that due to the toxins of the staphylococcus, both *S. albus* and *S. aureus*. This condition was first described in 1930 by Dack and his co-workers, and has since been shown to be much more prevalent than was formerly realized. The incubation period here is also short, often only a few hours, and the ingestion of the toxin preformed in the food causes the rapid appearance of vomiting, diarrhea and collapse. The toxin has been isolated from suspected foods and has caused similar symptoms when fed to human volunteers. Many of the outbreaks due to staphylococcus toxin have been caused by custards and custard-filled foods. The organism seems to grow well and form its toxin in milk preparations, especially those which have not been prepared with sufficient heat or which after adequate preparation are not carefully and continually refrigerated. The organism may enter the food from dirty hands or some skin infection in a foodhandler. Prevention consists in adequate sterilization of the custard mixtures used, constant refrigeration and limitation of sale to cool weather.

#### HOW ARE FOOD POISONING OUTBREAKS HANDLED?

"In the investigation of food poisoning outbreaks, the most important step is a complete list of the persons affected, the particulars of each individual case, the history of the ingestion of the suspected food or foods and the search for evidence of the source of the infection of this food. Samples taken of the food, the vomitus, the stool and the blood of the patients, and any available autopsy material are of great value. Stool specimens of foodhandlers suspected of being carriers should also be examined, both bacteriologically and chemically. The practicing physician seeing these cases can help by transmitting immediately to the laboratory for examination specimens of vomitus, stool and the suspected food. In some instances the organism found to be the cause of an outbreak may be discovered in the excreta of mice harbored at the place of preparation. A case of this was the well-known New York City outbreak investigated by Salthe and Krumwiede,<sup>2</sup> and another has been reported from Providence by Staff and Grover.<sup>3</sup>

#### WHAT IS THE TREATMENT OF FOOD POISONING?

"In the main, the treatment of cases of food poison-

ing is symptomatic, except in botulism, when, if the diagnosis is made early, large doses of the proper antitoxin may be effective. The main public health measure, however, in food poisonings is prevention. This is being slowly accomplished. No longer are filthy and dirty food places allowed to continue, and no longer is mass production of food permitted except under the best of conditions. Communities are definitely aware of the fact that if they insist upon cleanliness in their food establishments they will get it, and campaigns such as have taken place in smaller towns where continued observation of the kitchens of food establishments is insisted upon, are of extreme value. Of major importance too in the prophylaxis of food poisonings are hygienic slaughtering and thorough meat inspection, and proper handling of food, by individuals free from disease or carrier states. Next come the proper storage of food and its complete protection from rodents and insects, adequate refrigeration and proper cooking. Last, and probably most important, is the education of the professional and home foodhandler in cleanliness. This is probably the firmest bulwark in the prevention of the transmission of disease through food.

#### REFERENCES

1. Castellani, A.: Organisation sanitaire, mesures prophylactiques, état de santé du corps expéditionnaire italien pendant la guerre éthiopienne (3 octobre 1935—9 mai 1936), Bull. office internat. d'hyg. pub. 29: 1186-1202, June, 1937.
2. Salthe, O. & Krumwiede, C.: Paratyphoid-Enteritides Group: Epidemic of food infection due to paratyphoid bacillus of rodent origin, Am. J. Hygiene 4: 23-32 (Jan.) 1924.
3. Staff, E. E. & Grover, M. L.: Outbreak of Salmonella food infection caused by filled bakery products, Food Research 1: 465-479 (Sept.-Oct.) 1936.

#### COMMUNICABLE DISEASES REPORTED Urban and Rural - May 21 to June 17, 1939.

##### Occurring in the Municipalities of:

- Whooping Cough:** Total 219—Transcona 169, Winnipeg 25, Ethelbert 9, Lawrence 6, Morris Rural 6, Rosedale 1, St. Boniface 1, St. James 1, Whitewater 1.
- Chickenpox:** Total 137—Winnipeg 34, Unorganized 26, Kildonan East 17, Hamiota Rural 10, St. Boniface 9, Brooklands 7, Flin Flon 6, Lorne 5, St. Andrews 5, Rosser 4, Strathclair 3, Hamiota Village 2, Brandon 1, Norfolk North 1, Pipestone 1, Rosedale 1, St. Paul East 1, Woodworth 1 (Late Reported: St. Boniface 3).
- Mumps:** Total 106—Winnipeg 94, Kildonan East 7, St. Boniface 2, Unorganized 2, Tuxedo 1.
- Measles:** Total 91—St. Boniface 51, Winkler 10, Minitonas 7, Winnipeg 6, Swan River Rural 5, Swan River Town 4, Melita 1, Portage City 1, Roland 1, Stanley 1, St. James 1, Tuxedo 1, Unorganized 1 (Late Reported: Morris Rural 1).
- Tuberculosis:** Total 61—Unorganized 9, Winnipeg 9, Lorne 6, Brandon 3, Kildonan East 3, Norfolk South 2, Portage City 2, Portage Rural 2, Strathcona 2, St. Clements 2, St. Vital 2, Armstrong 1, Cypress South 1, Dauphin Town 1, Dauphin Rural 1, Fort Garry 1, Grey 1, Hanover 1, Neepawa 1, Norfolk North 1, Ochre River 1, Rhineland 1, Rockwood 1, Rosser 1, Stonewall 1, St. Andrews 1, St. Boniface 1, St. Laurent 1, Tache 1, Transcona 1.
- Scarlet Fever:** Total 36—Winnipeg 15, Swan River Rural 6, Brandon 5, Unorganized 5, Brokenhead 1, Charleswood 1, Dufferin 1, Kildonan North 1 (Late Reported: Dufferin 1).
- Diphtheria:** Total 20—Winnipeg 15, Charleswood 1, Kildonan North 1, St. Andrews 1, St. Boniface 1, The Pas 1.
- Influenza:** Total 19—(Late Reported: Kildonan West 2, Rosburn Rural 2, Bifrost 1, Brandon 1, Dauphin Rural 1, Ericksdale 1, Gimli Rural 1, Grandview 1, Neepawa 1, Pipestone 1, Stanley 1, Unorganized 4, Springfield 1, Westbourne 1.

**Typhoid Fever:** Total 13—Selkirk 2, Springfield 1, Ste. Anne 1 (Late Reported: Selkirk 9).

**Erysipelas:** Total 5—Assiniboia 1, Franklin 1, Hanover 1, Transcona 1, Winnipeg 1.

**Lobar Pneumonia:** Total 5—(Late Reported: Hanover 1, Montcalm 1, Morris Rural 1, St. Boniface 1, Unorganized 1).

**Tetanus:** Total 3—Clanwilliam 1, Hamiota Village 1 (Late Reported: Oak Lake Town 1).

**German Measles:** Total 2—Rivers Town 1, St. Boniface 1.

**Anterior Poliomyelitis:** Total 1—Winnipeg 1.

**Cerebrospinal Meningitis:** Total 1—Winnipeg 1.

**Puerperal Fever:** Total 1—(Late Reported: Winnipeg Beach 1).

**Septic Sore Throat:** Total 1—Virden Town 1.

**Vincent's Angina:** Total 1—Unorganized 1.

**Venereal Disease:** Total 119 (June)—Gonorrhoea 67, Syphilis 52.

#### DEATHS FROM ALL CAUSES IN MANITOBA For the Month of May, 1939.

**URBAN**—Cancer 36, Tuberculosis 6, Pneumonia (all forms) 5, Influenza 3, Syphilis 2, Cerebrospinal Meningitis 1, Diphtheria 1, Lethargic Encephalitis 1, Scarlet Fever 1, Typhoid Fever 1, Tetanus 1, Throat Infection 1, all others under one year 21, all other causes 168, Stillbirths 13. Total 261.

**RURAL**—Cancer 33, Influenza 18, Tuberculosis 15, Pneumonia (all forms) 7, Pneumonia (Lobar) 7, Typhoid Fever 5, Whooping Cough 4, Cerebrospinal Meningitis 1, Measles 1, Scarlet Fever 1, all others under one year 21, all other causes 145, Stillbirths 19. Total 277.

**INDIAN**—Tuberculosis 18, Influenza 11, Pneumonia (all forms) 7, Whooping Cough 4, Pneumonia (Lobar) 1, all others under one year 8, all other causes 3, Stillbirths 2. Total 54.

#### PRELIMINARY PROGRAMME

*Thirty-Ninth Annual Meeting*

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*September 7-8-9, 1939*

Papers will be read by the following:—Dr. P. W. Hardie, Mountain Sanatorium, Hamilton; Dr. H. C. Boughton, Saskatoon Sanatorium, Saskatoon; Dr. C. G. Shaver, Niagara Peninsula Sanatorium, St. Catharines; Dr. A. L. Paine, Manitoba Sanatorium, Ninette; Dr. Lasalle Laberge, Quebec; Dr. A. P. MacKinnon, Winnipeg; Dr. L. W. Thompson, Weston Sanatorium, Weston; Dr. G. S. Jeffrey and Dr. D. C. Marlatt, Fort William Sanatorium, Fort William; Dr. P. M. Andrus, Queen Alexandra Sanatorium, London; Dr. Thomas J. Kinsella, Minneapolis, Minn.; Dr. Erik Hedvall, University of Lund Tuberculosis Clinic, Lund, Sweden; Mr. W. P. Shahan, Executive Secretary, Illinois Tuberculosis Association; Dr. J. A. Myers, University of Minnesota; Dr. R. G. Ferguson, Fort Qu'Appelle; Dr. J. D. Adamson, St. Boniface Sanatorium, St. Vital; Dr. Harry C. Ballon and Albert Guernon, Montreal; Dr. Percy Moore, Indian Affairs Branch, Ottawa; Drs. J. A. and Gaétan Jarry, Montreal; Dr. Hugh E. Burke, Montreal.

A complete list of the subjects will be published in the September issue of the "Review."



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